

MATERIALS FOR THE FLORA OF SHIKOKU X.

Yoshiyuki AKASAWA

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Asplenium sarelii HOOKER, in BLAKISTON, Five Months Yangt-tze, Appendix, 363, 364 (1862). C. CHR., Ind. Fil. 130 (1905). LÉVEILLÉ in Bull. Acad. Int. Geogr. Bot. 4 (1910). NAKAI, Fl. Kor. II. 408 (1911), *p. p.*. MATH. in Journ. Linn. Soc. XXXIX. 347 (1911). MAKINO et NEMOTO, Fl. Jap. ed. 2. 26 (1931). TARDIEU-BLOT, Asp. Tonkin 46 (1932), *p. p.*. MASAMUNE, Fl. Geobot. Yak. 80 (1934), *ut Asp. sarellii Hook.*. H. ITO, in Bot. Mag. Tokyo, LIII. 23 (1939); Fil. Jap. III. f. 110 (1944). HONDA, Nom. Pl. Jap. 6 (1939); ed. emend. 16 (1940). MAKINO, Ill. Fl. Jap. 931. Pl. 2790 (1940). OHWI, Fl. Jap. Pterid. 138 (1957). TAGAWA, Colour. Ill. Jap. Pterid. 179 fig. 341 (1959).

Asplenium saulii HOOK. ex BAK., in HOOK. et BAK., Syn. Fil. ed. 2. 216 (1874). CHR., Farnk. Erd. 203 (1897). KOMAROV, Fl. Mansh. I. 139 (1901). DIFLS in ENGL. et PRANTL, Nat. Pfl.-fam. I-4. 240 (1902). MATSUMURA, Ind. Fl. Jap. I. 292 (1904), *p. p.*. OGATA, Ic. Fil. Jap. I. pl. 8 (1928); in Journ. Jap. Bot. XIV. 456 (1938). MASAMUNE, Frel. Rep. Veg. Yak. 24 (1929).

Asplenium pekinense HANCE sensu Y. YOSHINAGA in Bot. Mag. Tokyo, I. 173 (1887); in Bot. Mag. Tokyo XII, 78 (1898). MAKINO, Phan. Pter. Jap. Ic. III. I. Pl. 63 (1900); in Bot. Mag. Tokyo XII (87) (1898). MATSUMURA, Ind. Pl. Jap. I. 385 (1904), *pro syn.*

Asplenium blakistoni BAKER in HOOK. et BAKER, Syn. Fil. ed. I. 216 (1867).

Nom. Jap. *Kobano-hinokisida*.

Hab. Prov. Tosa; en route from Yasui to Ootakijinza, Ikegawa-cho (K. IWATSUKI! May, 25, 1956-K). en route from Funato to Nakamura, Takaoka-gun (T. SHIMIZU! May, 13, 1960-K). Yamanoha, Kochi-si (Y. AKASAWA! Jul. 5, 1953. no. 108213). Kizensan, Motoyama-cho (Y. AKASAWA! Jul. 23, 1957). Tosayama, on calcoreous rock (S. KITAMURA! Jun. 24, 1954-K). Syobudo, Tosayama-mura (Y. AKASAWA! Mar. 29, 1958. no. 58783). Kuwao, Tosayama-mura, Tosa-gun (K. IWATSUKI! May, 24, 1959-K). Ryugado, Sako-mura (Y. AKASAWA! Mar. 19, 1953), *ibid.* (Y. AKASAWA! June, 3, 1957). Ootani, Nishikawa-mura, Kami-gun (Y. AKASAWA! Dec. 26, 1952. no. 103468). Kubokawa, Nishikawa-mura (Y. AKASAWA! Dec. 21, 1952. no. 103465). Ooyashiki, Zaisyo-mura (Y. AKASAWA! Oct. 11, 1953. no. 1952). Yamasaki, Ootochi (Y. AKASAWA! Jul. 10, 1953. no. 107039). Befu, Kamiyama-mura (Y. AKASAWA! Jul. 11, 1953).

Prov. Awa; Kawanari, Sawatani-mura (Y. AKASAWA! Mar. 31, 1952. no. 103972). Higashio, Miyahama-mura (KITAMURA et NAKAI! Oct. 30, 1951-K). Asebi, Naka-gun (M. TOGASHI! Nov. 24, 1957-K). Siroyama, Tokusima-si (Y. AKASAWA! Nov. 25, 1950).

Prov. Iyo; Higasiakaisi-yama (M. MITSUI! -K). Mimido, Mikawa-mura, Kamiukiana-gun (K. IWATSUKI! May, 30, 1956-K). Kitanada-mura, Kita-Uwa-gun (M. OGATA! Aug. 6, 1924-K). Tachikawa, Niihama-si (H. ISHIKAWA! Aug. 12, 1960-K).

Distr. Honsyu, Kyusyu, Ryukyu, Formosa, China, Korea, Manchuria et Himalaya.

Asplenium shikokianum MAKINO, in Bot. Mag. Tokyo, VI. 45 (1892); XIII. 13 (1899). MATSUMURA, Ind. Pl. Jap. I. 292 (1904). C. CHR. Ind. Fil. 132 (1905). MAKINO et NEMOTO, Fl. Jap. ed. 2. 27 (1931). OGATA, Ic. Fil. Jap. V. Pl. 209 (1933); in Journ. Jap. Bot. XV. 695 (1939). HONDA, Nom. Pl. Jap. 6 (1939); ed. emend. 16 (1957). TAGAWA, in Acta Phyt. Geobot. X. 204 (1941); in XIV. 95 (1951); Colour. Ill. Jap. Pterid. 179 f. 336 (1959).

Asplenium wrightii EAT. var., ex MAKINO in Bot. Mag. Tokyo, III. 69 (1889).

Asplenium bulbiferum FORST. var., ex MAKINO in Bot. Mag. Tokyo, IV. 453 (1890); in VI. 45 (1892), pro syn..

Asplenium bulbiferum var., MAXIM. in litt. ex MAKINO, Phaner. Pterid. Jap. Ic. I. t. 50 (1901).

Asplenium wrightii EAT. var. *shikokianum* (MAKINO) MAKINO, Phan. Jap. Ic. I. t. 50 (1901); Ill. Fl. Jap. 930 f. 2788 (1940). MATSUMURA, Ind. Pl. Jap. I. 386 (1904). OHWI, Fl. Jap. Pterid. 141 (1957).

Nom. Jap. *Hayama-shida* (MAKINO, 1889).

Hab. Prov. Tosa; Asizuri-misaki (Y. AKASAWA! July 7, 1936. no. 1512-6). Usa, Takaoka-gun (Z. TASHIRO! Aug. 28, 1913-K). Nishidera, Muroto-cho (M. TAGAWA! July 15, 1931-K). ibid. (Y. AKASAWA! Nov. 20 1955. no. 33430).

Distr. Honsyu, Kyusyu, Formosa et China.

Asplenium trichomanes LINNAEUS, Sp. Pl. II. 1080 (1753). HOOK., Sp. Fil. III. 136 (1860). HOOK. et BAK., Syn. Fil. 196 (1867). FR. et SAV., Enum. Pl. Jap. II. 219 (1879). Y. YOSHINAGA in Bot. Mag. Tokyo, I. 173 (1887). CHR., Farnk. d. Erde 198 (1897). DIELS in ENGI. et PRANTL, Nat. Pfl.-fam. I-4. 235 (1902). MATSUMURA, Ind. Pl. Jap. I. 292 (1904), ut *Asp. trichomanus* HUDS.. C. CHR. Ind. Fil. 135 (1905). NAKAI, Fl. Kor. II. 407 (1911); in Bot. Mag. Tokyo, XXVIII. 87 (1914). MAKINO et NEMOTO, Fl. Jap. 1984 (1925); ed. 2. 27 (1931). MIYABE et TATEWAKI, Tr. Sapporo Nat. Hist. Soc. XIII. 69 (1933). HONDA, Nom. Pl. Jap. 6 (1939); ed. emend. 17 (1957). OGATA, Ic. Fil. Jap. VIII. pl. 354 (1940). MAKINO, Ill. Fl. Jap. 932 f. 2793 (1940). H. ITO, Fil. Jap. III. f. 118 (1944). FERNALD, GRAY's Manual of Botany ed. 8 p. 44 (1950). OHWI, Fl. Jap. Pterid. 136 (1957). TAGAWA, Colour. Ill. Jap. Pterid. 179 f. 331 (1959).

Asplenium trichomanoides HOUTTUYN, Pfl. Syst. XIII-2. 145 (1786).

Trichomanes crenatum GILBERT, Exeric. Phytol. II. 556 (1792).

Phyllitis rotundifolia MOENCH, Method. 724 (1794).

Nom. Jap. *Chasen-sida*, *Chasen-shida*.

Hab. Prov. Tosa; Kajiya, Hata-gun (Y. AKASAWA! Aug. 6, 1956). Yasuikozan, Ikegawa-cho (K. IWATSUKI! May 26, 1956-K). Kizensan, Motoyama-cho (Y. AKASAWA! July 23, 1957). Oosugi to Amatsubo, Nagaoka-gun (Y. AKASAWA!

March 21, 1952. no. 103815). Kajigamine, Sagayama-michi (Y. AKASAWA! July 19, 1955. no. 30032). Kuryu, Kajigamine (Y. AKASAWA! June 15, 1953. no. 106589).

Prov. Awa; Kunimi-yama, Miyoshi-gun (Y. AKASAWA! Aug. 9, 1954). Hashikuraji (Y. AKASAWA! Oct. 30, 1945. no. 5659). Kawamata, Mitsunochi (Y. AKASAWA! May 30, 1946). Near the Tsurugi-basi, Oe-gun (Y. AKASAWA! May 16, 1953. no. 105936). Kuwadaira, Mt. Tsurugi (Y. AKASAWA! May 18, 1953. no. 106040). Amagoino-taki, Miyozai-gun (Y. AKASAWA! May 10, 1946). Bizan, Tokusima-si (Y. AKASAWA! March 6, 1946. no. 7581). Tokushima (FAURIE! Jun. 1900-K). Mt. Tairyuji-san, Naka-gun (Y. AKASAWA! Jun. 5, 1946. no. 7390).

Prov. Iyo; Iwaya-yama, Mikawa-mura, Kamiukiana-gun (K. IWATSUKI! May 30, 1956-K). Otoshi, Sumino, Nii-gun (K. OCHI! Aug. 8, 1937-K). Kawaguchi-dani, Ohogimura, Nii-gun (G. MURATA! Aug. 30, 1955-K). Enshino, Hinode-mura, Nishiuwa-gun (Y. NOMURA! Oct. 12, 1954-K).

Prov. Sanuki; Itsuponmatsu-goe, Aioi-mura, Ookawa-gun (Y. AKASAWA! Kountei, Kankakei, Syodo-sima (Y. AKASAWA! Nov. 6, 1958).

Distr. Hokukaido, Honsyu, Kyusyu, Korea, Formosa et Europa.

Asplenium tripteropus NAKAI in Bot. Mag. Tokyo, XLIV. 9 (1930). TAGAWA in Acta Phytotax. Geobot. I-2. 160 (1932); Colour. Ill. Jap. Pterid. 179 f. 330 (1959). OHWI, Fl. Jap. Pterid. 138 (1957).

Asplenium anceps v. d. BOSCH. var. *proliferum* NAKAI in Bot. Mag. Tokyo, XLVII. 172 (1933). HONDA, Nom. Pl. Jap. 5 (1939); ed. emend. 16 (1957). OGATA, Ic. Fil. Jap. VIII. pl. 353 (1940). H. ITO, Fil. Jap. III. f. 119 (1944).

Asplenium trichomanes L. var. *anceps* CHRISTENSEN, Ind. Fil. Suppl. III. 38 (1917-1938). Nom. Jap. *Inu-chasensida*.

Hab. Prov. Tosa; Oomiyari, Befu-mura, Takaoka-gun (Y. AKASAWA! Dec. 23, 1951. no. 101035). Nakatsu-keikoku, Nanokawa-mura (Y. AKASAWA! May 23, 1955. no. 21090). Kusugami, Mt. Yokogura (Z. TASHIRO! Sept. 1, 1913-K). *ibid.* (Y. AKASAWA! Sept. 2, 1956). Ishidan, Mt. Yokogura (Y. AKASAWA! March 26, 1953. no. 104984). The Kusunokawa-yama state forest near Kure, Takaoka-gun (M. TAGAWA! Sept. 1, 1939-K). Kuwanokawa, Takaoka-gun (Y. AKASAWA! Sept. 21, 1957). Kizensan, Motoyama-cho (Y. AKASAWA! July 23, 1959). Sagayama, Kajigamori (Y. AKASAWA! July 19, 1955. no. 30032). Kuriu, Kajigamori (Y. AKASAWA! June 15, 1953. no. 106736). Kawaguchi, Makiyama-mura (Y. AKASAWA! July 12, 1953. no. 107053). Momoo, Makiyama-mura (Y. AKASAWA! July 10, 1953. No. 107077). Yanase, Aki-gun (Y. AKASAWA! Aug. 13, 1957).

Prov. Awa; Shimosawatani, Sawatani-mura, Naka-gun (Y. AKASAWA! Aug. 5, 1950). Ryunoiwaya, Mt. Tairyuji-san (Y. AKASAWA! Apr. 3, 1947), *ibid.* (Y. AKASAWA! July 21, 1948). Near Tsurugibashi, Mt. Tsurugi (Y. AKASAWA! May 16, 1953. no. 105936). Between Kama and Ishi, Shishikui-cho (Y. AKASAWA! Aug. 6, 1962. no. 62-A-713). Hiyadani, Shishikui-cho

(Y. AKASAWA! Aug. 5, 1962. no. 62-A-463).

Prov. Iyo; Shiramidani, Mizuho-mura (K. IMAIZUMI! Oct. 22, 1926-K).

Hakogadani, Kiyomidzu-mura (C. WATANABE! Aug. 6, 1932-K).

Prov. Sanuki; Iponmatsugoe, Aioi-mura, Ookawa-gun (Y. AKASAWA! July 27, 1939. no. 4787). Kountei, Kankakei, Syodo-sima (Y. AKASAWA! Nov. 6, 1958).

Distr. Honsyu, Kyusyu et Formosa.

Asplenium unilaterale LAMARCK, Encycl. Meth. Bot. 2. 305 (1786). Y. YABE in Bot. Mag. Tokyo, XVI. (50) (1902). MATSUMURA, Ind. Pl. Jap. 292 (1904). C. CHRISTENSEN, Ind. Fil. 136 (1905). NAKAI in Bot. Mag. Tokyo, XXVIII. 28. 87 (1914). MAKINO et NEMOTO, Fl. Jap. 1584 (1925); ed. 2. 27 (1931). TARDIEU-BBLOT, Asp. Tonkin 32 (1932). OGATA, Ic. Fil. Jap. pl. 210 (1933). HONDA, Nom. Pl. Jap. 6 (1939). H. ITO in Bot. Mag. Tokyo, LIII. 23 (1939); Fil. Jap. III. f. 130 (1944). MAKINO, III. Fl. Jap. 929. f. 2786 (1940). HOLTUM, Fl. Malaya II. 438 (1954). ADAMS et ALSTON in Bull. Brit. Mus. (Nat. Hist.) Botany, I-6. 171 (1955). AKASAWA in Rep. Usa Marine Biol. Stat. IV-5. 23 (1957). OHWI, Fl. Jap. Pterid. 135 (1957). TAGAWA, Colour. III. Jap. Pterid. 179 f. 345 (1959). COPELAND, Fern Fl. Philip. III. 432 (1960).

Asplenium resectum SMITH, Pl. Ic. ined. III. t. 72 (1791). J. SMITH in Journ. Bot. III. 408 (1841). HOOKER, Sp. Fil. III. 130 (1860). HOOK. et BAK., Syn. Fil. 210 (1867). FR. et SAV., Enum. Pl. Jap. II. 219 (1879). CHR., Herb. Boiss. 1016 (1901); Farnkr. Erd. 194 (1897). MAKINO in Bot. Mag. Tokyo, III. 69 (1889). DIELS in ENGL. et PRANTL, Nat. Pfl.-Fam. I-4. 237 (1902). MATSUMURA, Ind. Pl. Jap. I. 291 et 386 (1904). COPELAND, Polyp. Philip. 81 (1905).

Asplenium abscissum BL., Enum. 182 (1828). C. CHR., Ind. Fil. 98 (1905), *pro syn.*

Asplenium amoenum PRESL, Tent. 107 (1836).

Asplenium emarginodentatum (ZENKER) KZE., Linn. 263 (1851).

Asplenium resectum SM. *form. adiantifrons* HAYATA, Ic. Fl. Formos. IV. 226. f. 155 (1914).

Asplenium unilaterale LAM. *var. olivissimum* HAYATA, Ic. Pl. Formos. IV. 230. f. 160 (1914). MAKINO et NEMOTO, Fl. Jap. 1584 (1928). HONDA, Nom. Pl. Jap. 6 (1939).

Asplenium resectum SW. *var. obliquissimum* (HAYATA) HAYATA, Ic. Pl. Formos. V. 262 (1915).

Asplenium unilaterale LAM. *f. adiantifrons* (HAYATA) MAKINO et NEMOTO, Fl. Jap. 1584 (1925).

Hymenoasplenium unilaterale (LAM.) HAYATA in Bot. Mag. Tokyo, XLI. 715 (1927). HONDA, Nom. Pl. Jap. ed. emend. 17 (1957).

Asplenium obliquissimum (HAYATA) SUGIMOTO et KURATA in Journ. Geobot. VIII-1. 9 (1959).

Nom. Jap. *Hobi-shida*, *Hime-kuzyakusida* (MAKINO 1889), *Hime-hobisida*, *Hosoba-hobisida*, *Taiwan-himehobisida*.

Hab. Prov. Tosa; The tengu state forest, Asizuri-misaki (Y. AKASAWA! Jul. 31, 1953. no. 107934-6). *ibid.* (Y. AKASAWA! Dec. 12, 1955. no. 33593-4).

Ioki, Aki-gun (M. TAGAWA! Aug. 10, 1929-K). *Ibid.* (FUJITA! Jul. 28,

1931-K). *ibid.* (Y. AKASAWA! Apr. 4, 1953. no. 104355). Iokido, Aki-si (Y. AKASAWA! Aug. 17, 1955. no. 32282-4). *ibid.* (Y. AKASAWA! Nov. 22, 1955. no. 33409-14). Irie-dani, Ikegawa-cho, Agawa-gun (Y. AKASAWA! Jun. 10, 1957. no. 57-22). Ire, Gohoku-mura, Agawa-gun (Y. AKASAWA! Aug. 31, 1962. no. 194).

Prov. Awa; Ooboake, Miyoshi-gun (Y. AKASAWA! March 24, 1947). Hiyadani, Shishikui-cho (Y. AKASAWA! Aug. 5, 1962. no. 62-A-477). Mt. Hindenmaru, Shishikui-cho (K. NAKAI! Aug. 5, 1962. no. 62-A-506).

Distr. Honsyu, Kyusyu, Ryukyu, Formosa, Luzon, Tonkin, Bonin, Polynesia, Hawaii to Africa.

Asplenium varians WALLICH ex HOOK. et GREV., Ic. Fil. II. t. 172 (1829). HOOK., Sp. Fil. III. 192 (1860), *ut Asp. varians* HK. et GR., HOOK. et BAK., Syn. Fil. 216 (1867). FR. et SAV., Enum. Pl. Jap. II. 220 (1879). Y. YOSHINAGA in Bot. Mag. Tokyo, I. 173 (1887). MAKINO in Bot. Mag. Tokyo, III. 9 (1889); XII. 87 (1898); MAKINO's III. Fl. Jap. ed. enlarg. 1297 f. 3880 (1955). DIELS in ENGL. et PRANTL. Nat. Pfl.-fam. I-4. 240 (1902). MATSUMURA, Ind. Pl. Jap. 292 et 386 (1904). C. CHR., Ind. Fil. 137 (1905). NAKAI in Bot. Mag. Tokyo, XXVIII. 87 (1914). OGATA, Ic. Fil. Jap. I. pl. 10 (1928). MIYABE et KUDO, Fl. Hokk. & Saghl. I. 34 (1930). MAKINO et NEMOTO, Fl. Jap. ed. 2. 28 (1931). TARDIEU-BLOT, Asp. Tonkin, 45 (1932). H. ITO in Journ. Jap. Bot. XIV. 592 (1938), Fil. Jap. III. f. 112 (1944). HONDA, Nom. Pl. Jap. 6 (1939), ed. emend. 17 (1957). OHWI, Fl. Jap. Pterid. 140 (1957), *pro parte*. TAGAWA, Colour. Ill. Jap. Pterid. 179. f. 344 (1959).

Asplenium fimbriatum KUNZE in Linn. XVIII. 117 (1844).

Gymnogramma fauriei CHRIST, Bull. Herb. Boiss. II. 561 (1902).

Anogramma fauriei (CHRIST) C. CHR., Ind. Fil. 58 (1905). MAKINO et NEMOTO, Fl. Jap. 1574 (1925).

Asplenium varians WALL. *f. obtusilobum* MIYABE et KUDO, Fl. Hok. & Sag. 34 (1930). HONDA, Nom. Pl. Jap. 6 (1939); ed. emend. 17 (1957).

Asplenium subvariens CHING in C. CHR. Ind. Suppl. III. 38 (1934).

Asplenium shiobarense KOIDZUMI in Acta Phytotax. Geobot. V. 50 (1935).

Asplenium tenuicaule HAYATA, Ic. Pl. Formos. IV. 228 f. 158 (1914). MAKINO et NEMOTO, Fl. Jap. 1583 (1925).

Nom. Jap. *Iwa-toranoo*, *Hime-toranooshida*, *Chabo-iwatoranoo*.

Hab. Prov. Tosa; The ravine of Narukawa-dani in Mt. Kakuden-yama, Takaoka-gun (M. TAGAWA! Sept. 7, 1939-K). Mt. Yokogura (Y. AKASAWA! Apr. 26, 1953. no. 104920).

Prov. Awa; Fujinoike, Mt. Tsurugi (Y. HUII! Aug. 3, 1933-K). Higashino in Miyahama-mura, Naka-gun (S. KITAMURA et G. NAKAI, Oct. 30, 1951-K). Sawatani-mura (T. INOBE! Aug. 9, 1940-K). Kawanari, Sawatani-mura (Y. AKASAWA! July 24, 1952. no. 101337). Iwakura, Sawatani-mura (Y. AKASAWA! March 31, 1952).

Prov. Iyo; Kawamata, Nakahazi, Nii-gun (K. OCHI! Oct. 31, 1942-K).

Distr. Hokkaido, Honsyu, Kyusyu, Formosa, Korea, Manchuria, China et Himalaya.

Asplenium viride HUDSON, Fl. Anglica 385 (1762). LÉDEBOUR, Fl. Ross. IV. 521 (1853). HOOK., Sp. Fil. III. 144 (1860). HOOK. et BAK., Syn. Fil. 195 (1874). CHRIST, Farnkr. d. Erde 191 (1897). LUERSSSEN in RABENHORST, Kryptogamenflora III. 195 (1889). DIELS in ENGL. et PRANTL, Nat. Pfl.-fam. I-4. 235 (1902). C. CHR., Ind. Fil. 137 (1905). MAKINO in Bot. Mag. Tokyo, XIX. 104 (1905). GRAY, New Manual of Botany, ed. 7. 38 (1908). BRITTON & BROWN, Ill. Fl. Noth. Stat. & Canada, 28 (1913). MAKINO et NEMOTO, Fl. Jap. 28 (1925); ed. 2. 28 (1931). FOMIN, Fl. Sibir. Orient. Extr. 143 (1930). TAGAWA in Acta Phytotax. Geobot. I. 310 (1932); in Journ. Jap. Bot. XII. 540 (1936); Colour. III. Jap. Pterid. 180 f. 332 (1959). HONDA, Nom. Pl. Jap. 6 (1939); ed. emend. 17 (1957). OGATA, Ic. Fil. Jap. VIII. pl. 355 (1940). H. ITO, Fil. Jap. III. f. 120 (1944). OHWI, Fl. Jap. Pterid. 137 (1957).

Trichomanes ramosum LINNAEUS, Sp. Pl. II. 1082 (1753).

Nom. Jap. *Ao-chasenshida* (MAKINO 1905).

Hab. Awa; Mt. Tsurugi (G. KUDO! Aug. 14, 1933-K). Between Nishijima and Otsurugi (Y. AKASAWA! Aug. 26, 1955. no. 33227). Kotsurugi (Y. AKASAWA! Aug. 26, 1955. no. 32109). Tsurunomai, Mt. Tsurugi (Y. AKASAWA! May 17, 1953. no. 105775). Arinotowatari, Mt. Tsurugi (Y. AKASAWA! July 26, 1952. no. 101029). Korinoseki, Mt. Tsurugi (Y. AKASAWA! Jul. 14, 1956). Sanjyugosya, Mt. Tsurugi (Y. AKASAWA! Jul. 29, 1960. no. 60-57).

Prov. Tosa; Mt. Tebako-yama (Y. AKASAWA! May 26, 1956).

Distr. Hokkaido, Honsyu, Formosa, Himalaya, Siberia, Europa et N.-America.

Asplenium wilfordii METTENIUS ex KUHN in Linnaea XXXVI. 94 (1869). BAKER in HOOK. et BAKER, Syn. Fil. ed. 2. 487 (1874). FR. et SAV., Enum. Pl. Jap. II. 220 (1876). LUERSS in ENGL. Bot. Jahrb. IV. 356 (1883). MAKINO in Bot. Mag. Tokyo, IV. 453 (1890); XII (87) (1898); Phaner. Pterid. Jap. Icon. I. t. 6 (1901); III. Fl. Jap. 931 f. 2792 (1940). MATSUMURA, Ind. Pl. Jap. I. 293 et 386 (1904). C. CHR., Ind. Fil. 138 (1905). LÉVEILLÉ in Bull. Acad. Int. Geogr. Bot. 4 (1910). MATH. in Journ. Linn. Soc. XXXIX. 347 (1911). NAKAI, Fl. Kor. II. 408 (1911); in Bot. Mag. Tokyo, XXVIII. 88 (1914). OGATA, Ic. Fil. Jap. III. pl. 57 (1929). MASAMUNE, Prel. Rep. Veg. Yak. 24 (1929); Fl. Geobot. Stud. Isl. Yakusima. 80 (1934). MAKINO et NEMOTO, Fl. Jap. ed. 2. 28 (1931). TAGAWA in Journ. Jap. Bot. XIII. 182 (1937); Colour. III. Jap. Pterid. 180 f. 340 (1959). AKASAWA in Rep. Usa Marine Biol. Stat. IV-5. 23 (1957). OHWI, Fl. Jap. Pterid. 139 (1957).

Asplenium laserpitifolium L. ex Y. YOSHINAGA in Bot. Mag. Tokyo, I. 173 (1887).

Asplenium laserpitifolium LAM. var. *morrisonense* HAYATA in Bot. Mag. Tokyo, XXIII. 29 (1909); in Journ. Coll. Sci. Imp. Univ. Tokyo. XXX. 438 (1911).

Asplenium morrisonense (HAYATA) HAYATA, Ic. Pl. Formos. IV. 225 (1914). MAKINO et NEMOTO, Fl. Jap. 1582 (1925).

Tarachia wilfordii (METTT.) H. ITO in Bot. Mag. Tokyo, XLIII. 23 (1939); Fil. Jap. III. f. 132 (1944). HONDA, Nom. Pl. Jap. 24 (1939); ed. emend. 17 (1957). MOMOSE in Journ. Jap. Bot. XXXV. 49 (1960).

Asplenidictyum wilfordii (METT.) NAKAI, Bull. Nat. Sci. Mus. Tokyo. no. 31. 15 (1952).

Nom. Jap. *Aogane-shida*, *Aogane-shida*, *Himeokinawasida*, *Simaokinawasida*.

Hab. Prov. Tosa; Ire, Gohoku-mura, Agawa-gun (Y. AKASAWA! Aug. 22, 1962. no. 191-3). Near the Tarunotaki-falls, Kamibun-mura, Takaoka-gun (M. TAGAWA! Sept. 7, 1939-K). Shimoyaka-mura (Y. AKASAWA! Nov. 3, 1953. no. 109886). Katsugase, Mitsuse-mura (Y. AKASAWA! May. 29, 1955. no. 32779). Kōtani, Kōtani-mura (Y. AKASAWA! May 29, 1955. no. 32866). Soanji, Kochi-si (Y. AKASAWA! Nov. 10, 1953. no. 110030). Hirose Tosayama-mura (Y. AKASAWA! Jan. 24, 1954. no. 110303). Nanatsubuchi, (Y. AKASAWA! Apr. 19, 1953. no. 104685). Itsuku, Kochi-si (Y. AKASAWA! Sept. 27, 1953. no. 109184). Bisayamon-no-taki, Amatsubo-mura (Y. AKASAWA! July 11, 1955. no. 33081). Ootani, Nishikawa-mura (Y. AKASAWA! Dec. 21, 1952. no. 103503). Nakayama-mura, Aki-gun M. TAGAWA! Aug. 23, 1930-K). Narukawa, None-cho (Y. AKASAWA! Nov. 22, 1955. no. 33362). Prov. Awa; Kainose, Kainan-si (Y. AKASAWA! Aug. 15, 1961. no. 120). Prov. Sanuki; Kankakei, Syodo-sima (K. SUGIYAMA! Aug. 1, 1905-K).

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Asplenium wrightii EATON ex HOOK., Sp. Fil. III. 113 t. 182 (1860). HOOK. et BAK., Syn. Fil. 204 (1867), MIQUEL in Ann. Mus. Bot. Lugd.-Bat. III. 175 (1867). FR. et SAV., Fnum. Pl. Jap. II. 219 (1876). Y. YOSHINAGA in Bot. Mag. Tokyo, I. 174 (1887). MAKINO, Phaner. Pterid. Jap. Icon. I. t. 5 (1901). MATSUMURA, Ind. Pl. Jap. 293 et 386 (1904). C. CHR., Ind. Fil. 138 (1905). MATSUMURA et HAYATA, Enum. Pl. Formos. 607 (1906). COPEL. in Philipp. Journ. Sci. III. 5. 280 (1908). LÉVEILLÉ in Bull. Acad. Int. Geogr. Bot. 4 (1910). NAKAI, Fl. Kor. II. 407 (1911). DUNN et TUTCH., Fl. Kwangt. & Hongk. 343 (1912). MERR., Enum. Hainan. Pl. 15 (1927). MASAMUNE, Prel Rep. Veg. Yak. 24 (1929); Fl. Geobot. Stud. Yakusima. 80 (1934). MAKINO et NEMOTO, Fl. Jap. ed. 2. 29 (1931). OGATA, Ic. Fil. Jap. V. pl. 211 (1933). H. ITO in Bot. Mag. Tokyo, LIII. 23 (1939); Fil. Jap. III. f. 124 (1944). HONDA, Nom. Pl. Jap. 6 (1939); ed. emend. 17 (1957). AKASAWA in Rep. Usa Marine Biol. Stat. IV-5 23 (1957). OHWI, Fl. Jap. Pterid. 140 (1957). TAGAWA, Colour. Ill. Jap. Pterid. 180. f. 335 (1959).

Asplenium wrightii EAT. var. *fauriei* CHRIST, Bull. Géogr. Bot. Mans. 243 (1906).

Asplenium wrightioides CHRIST, Bull. Geogr. Bot. Mans. 238 (1902). Chr., Ind. Fil. 138 (1906).

Asplenium centrochinense CHRIST, Bull. Geogr. Bot. Mans. 111 c. fig. (1904). CHR., Ind. Fil. 102 (1906).

Asplenium wrightii EAT. var. *aristato-serrulatum* HAYATA, Vacular Crypt. Fl. Form. 232 fig. 162. a. b. (1914).

Nom. Jap. *Kuruma-shida*.

Hab. Prov. Tosa; Asizuri-misaki (Y. AKASAWA! July 7, 1936. no. 1510-1). The Tengu state forest of Asizuri-misaki (Y. AKASAWA! Nov. 3, 1953. no. 33588). The state forest of Honokawa-yama, Kamibun-mura, Takaoka-gun (M. TAGAWA! Aug. 26, 1939-K). Honokawa (Y. AKASAWA! Oct. i. 1935. no. 866). Near the Tarunotaki-falls, Kamibun-mura, Takaoka-gun (M. TAGAWA! Aug. 26,

1939-K). The state forest of Todoroyama in Simohayama-mura, Takaoka-gun (M. TAGAWA! Sept. 1, 1939-K). The Kusunokawa-yama state forest near Kure, Takaoka-gun (M. TAGAWA! Sept. 1, 1939-K). Ire, Gohoku-mura (Y. AKASAWA! Aug. 31, 1962). Kawamata, Gohoku-mura (Y. AKASAWA! Aug. 31, 1962. no. 204). Shimoda, Shimoyakawa-mura (Y. AKASAWA! Nov. 3, 1953. no. 109865-6). Ryu, Usa-cho (Y. AKASAWA! Nov. 3, 1954. no. 10014). Shinzaike, Usa-cho (Y. AKASAWA! May 10, 1955. no. 104074). Anagawa, Kagami-mura (Y. AKASAWA! Dec. 4, 1955). Tosayama-mura (Y. AKASAWA! Oct. 17, 1935). Hirose, Tosayama-mura (Y. AKASAWA! June 24, 1954. no. 110209). Jigoku-dani, Kamoda (Y. AKASAWA! June 3, 1953. no. 104093). Mt. Kasioyama, Kochi-si (Y. AKASAWA! March 8, 1953). Hitsuzan, Kochi-si (Y. AKASAWA! Sept. 6, 1953. no. 108346-7). Takami-yama, Kochi-si (Y. AKASAWA! Apr. 19, 1936. no. 1354). Engyoji, Kochi-si (Y. AKASAWA! March 14, 1954. no. 110457). Nyujo, Kochi-si (Y. AKASAWA! Sept. 20, 1953. no. 108941). Isidate-hachiman, Kochi-si (Y. AKASAWA! Apr. 16, 1953. no. 104297). Nanatsubuchi (Y. AKASAWA! Oct. 7, 1951. no. 100450). Ryugado (Y. AKASAWA! Apr. 21, 1953. no. 490). Kamagadani, Nakayama-mura, Aki-gun (M. TAGAWA! Aug. 22, 1930-K). Yurugi, Sakihama-cho (Y. AKASAWA! Nov. 22, 1955. no. 33366). Kannoura-cho (Y. AKASAWA! Nov. 23, 1955. no. 33554). Kurose, None-cho (Y. AKASAWA! Nov. 22, 1955. no. 33366).

Prov. Iyo; Senjyo-mura, Nishiuwa-gun (T. OHONO! Mar. 1934-K).

Prov. Awa; Mt. Tairyuji-san (Y. AKASAWA! Jan. 5, 1946. no. 7373). Yuzuhara, Naka-gun (Y. AKASAWA! Mar. 9, 1948). Todorokino-taki, Kawakami-mura (Y. AKASAWA! Aug. 12, 1946). Kainose, Kaihu-gun (Y. AKASAWA! Apr. 10, 1950).

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Camptosorus LINK

クモノスシダ属

Camptosorus sibiricus RUPRECHT, Distr. Crypt. Vasc. Ross. 45 (1845). C. CHR., Ind. Fil. 166 (1905). FR. et SAV., Enum. Pl. Jap. II. 230 (1879). NAKAI, Fl. Kor. II. 410 (1911). OGATA, Ic. Fil. Jap. II. pl. 230 (1929). MIYABE et KUDO, Fl. Hok. & Sag. 33 (1930). MAKINO et NEMOTO, Fl. Jap. ed. 2. 36 (1931). HARA in Journ. Jap. Bot. IX. 183 (1933). CHING, Ic. Fil. Sin. III. pl. 107 (1935). TAGAWA in Acta Phytotax. Geobot. VI. 242 (1937); Colour. III. Jap. Pterid. 189. f. 350 (1959). HONDA, Nom. Pl. Jap. 8 (1939); ed. emend. 17 (1957). MAKINO, Ill. Fl. Jap. 733 f. 2797 (1940). H. ITO, Fil. Jap. III. f. 144 (1944). OHWI, Fl. Jap. Pterid. 142 (1957).

Scolopendrium sibiricum (RUPR.) HOOK., 2nd. Cent. Ferns. t. 35 (1861). HOOK., Sp. Fil. IV. 4 (1862). HOOK. et BAK., Syn. Fil. 248 (1867). CHR. Farnkr de Erd. 213 (1897). Y. YOSHINAGA in Bot. Mag. Tokyo, I. 174 (1887). Y. YABE in Bot. Mag. Tokyo, XVII. 67 (1903). MATSUMURA, Ind. Pl. Jap. 347 (1904).

Camposorus rhizophyllus var. *sibiricus* RUPR. ex H. CHRIST in Bull. Int. Geogr. Bot. 5 (1910).

Nom. Jap. *Kumonosu-shida*.

Hab. Prov. Tosa; Between Yosiuno and Sinden, Higasitunoyama-mura, Takaoka-gun (M. TAGAWA! Sept. 6, 1939-K). Mt. Yokogura (Y. AKASAWA! Apr. 26, 1953. no. 104921). *ibid.* (Y. AKASAWA! Sept. 13, 1953. no. 108604). Kuwao, Tosayama-mura (Y. AKASAWA! June 9, 1955. no. 32761). Kamino-mine, Shirakidani, Agekura-mura (Z. TASHIRO! Aug. 27, 1913-K). Ryugado, Sako-mura, Kami-gun (Y. AKASAWA! Nov. 9, 1952. no. 103679). Ootani, Nishikawa-mura (Y. AKASAWA! Dec. 21, 1952. no. 103494). Befu, Makiyama-mura (Y. AKASAWA! July 11, 1953. no. 107170).

Prov. Awa; Taira, Oku-kito-mura (Y. AKASAWA! March 11, 1948). Mt. Syosan-ji, Miyozai-gun (Y. AKASAWA! Aug. 4, 1949). Shimosawatani, Sawatani-mura, Naka-gun (Y. AKASAWA! Aug. 3, 1950).

Prov. Iyo; Ohnogahara (M. HIROE! Nov. 11, 1950-K). Rakan-ana, Ohnogahara (Y. AKASAWA! Aug. 6, 1955. no. 31866).

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CHEIROPLEURACEAE

スジヒトツバ科

Cheiropleuria PRESL

スジヒトツバ属

Cheiropleuria bicuspis (BLUME) PRESL, Epim. Bot. 189 (1849). CHRIST, Bull. Boiss. VI. 203 (1898); Farnkr de Erde 128 fig. 360 (1898). DIELS in ENGL. & PRANTL, Nat. Pfl.-fam. 1-4. 366 f. 195 (1902). MATSUMURA, Ind. Pl. Jap. I. 299 (1904). Copeland, in Philip. Journ. Sci. I. Suppl. 21 (1906); Fern Fl. Philip. III. 456 (1960). BOWER in Ann. Bot. XXIX. 495 t. 24-25. (1915). NAKAI in Bot. Mag. Tokyo, XLII. 213 (1928). OGATA, Ic. Fil. Jap. II. pl. 61 (1929). HU et CHING, Ic. Fil. Sin. I. pl. 50 (1930). HOLTUM, Ferns of Malaya 136 (1954). TAGAWA in Acta Phytotax. Geobot. XVI. 77 (1956); Colour. Ill. Jap. Pterid. 189 f. 351 (1959). AKASAWA in Rep. Usa Marine Biol. Stat. IV-5. 23 (1957). OHWI, Fl. Jap. Pterid. 143 (1957).

Polypodium bicuspe BLUME, Enum. Pl. Jav. 125 (1828).

Acrostichum bicuspe (BLUME) HOOK., Sp. Fil. V. 271 (1864). HOOK. et BAK., Syn. Fil. 421 (1868). BAK., in Journ. Bot. XXIII. 107 (1885). MAKINO in Bot. Mag. Tokyo, X. 55 (1896).

Acrostichum bicuspe (BL.) HOOK. var. *integrifolium* EATON, ex HOOK., Sp. Fil. V. 272 (1864).

Cheiropleuria bicuspis f. *integrifolia* (EAT.) KUHN, Chaetopt. 12 (1882).

Cheiropleuria bicuspis var. *integrifolia* EATON ex MATSUMURA et HAYATA, Enum. Pl. Formos. 641 (1906). HAYATA in Bot. Mag. Tokyo, XXIII. 80 (1909). MAKINO et NEMOTO, Fl. Jap. 1594 (1925); ed. 2. 37 (1931). NAKAI in Bot. Mag. Tokyo, XLII. 214 (1928).

MASAMUNE, Prel. Veg. Yak. 25 (1929); Fl. Geobot. Stud. Isl. Yakusima 47 (1934).
HONDA, Nom. Pl. Jap. 4 (1939).

Nom. Jap. *Suji-hitotuba*.

Hab. Prov. Tosa; Kawauchi-jinsya, Narukawa, None-cho (Y. AKASAWA! Apr. 22, 1955. nos. 33303-20). Yatuka, Hata-gun (M. YASUDA! July, 12, 1936. no. 1519-20). Okuyamaji, Yatsuka-mura, Hata-gun (Y. AKASAWA! Aug. 12, 1952. no. 102292).

Prov. Awa; Dekubo-dani, Shishikui-cho (Y. AKASAWA! Aug. 4, 1962. no. 62-A-384. *New to Prov. Awa.*)

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(*Botanical Laboratory, Kochi Women's University, Kochi City, Shikoku, Japan*)